

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 19-24, 28-32, and 34-36 are pending in the present application. Claims 1-17 were previously canceled and Claims 18, 25-27, and 33 are presently canceled. Claims 19-24, 28-32, and 35 have been amended and Claim 36 has been added by way of the present amendment. No new matter is added.

In the outstanding Office Action, guidelines illustrating the preferred layout for the specification were suggested. Claims 18-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Morin et al. (US 5,796,071). Claims 18-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Poix et al. (US 6,261,652) in view of Smith et al. (US 4,818,730).

With regard to the arrangement of the specification, the specification has been amended to include section headings as suggested in the Office Action.

In response to the rejection of Claims 18-24 under 35 U.S.C. § 102(b), Applicant respectfully requests reconsideration of these rejections and traverse the rejections as discussed next.

New Claim 36 recites a structure comprising a first and second glass substrates being kept apart by spacers. The spacers are recited as being glass or ceramic and bonded to at least the first substrate by a joint material comprising an enamel mixed with at least one metal oxide in a form of particles. In the outstanding Office Action, Morin et al. was cited as teaching merely the material comprising enamel and metal oxides. Morin et al. fails to disclose substrates being kept apart by spacers. Therefore, the rejection of Claims 18-24 under 35 U.S.C. § 102(b) as anticipated by Morin et al. is respectfully requested to be withdrawn.

The rejection of Claims 18-35 under 35 U.S.C. § 103(a) as being unpatentable over Poix et al. in view of Smith et al. is respectfully traversed. In the outstanding Office Action, Poix et al. was described as disclosing an insulated glazing unit comprising two glass sheets 2, 3 held apart by ceramic/glass spacers 4. The ceramic/glass spacers were described as adhered to the glass sheets with a bonding enamel material 13. Poix et al. failed to disclose a metal oxide mixed with the enamel. The Office Action held that it would have been obvious to add metal oxides to enamels as taught by Smith et al. in order to improve bonding characteristics.

However, Smith et al. is concerned with improving glass to metal adhesion. (See col. 2, lines 51-53). The purpose of adding metal oxides to the enamel of Smith et al. is to increase the coefficient of thermal expansion (CTE) of the resultant composite because metals have a high CTE as compared to glass materials. (See col. 3, lines 44-48 and col. 4, lines 1-5). However, the joint material of the instant invention is designed to bond a glass or ceramic to a glass substrate, which have similar and low coefficients of thermal expansion. Therefore, there is no need to increase the CTE of the enamel as opposed to the prior art where the CTE of the sealing material is adjusted to be similar to that of the materials being bonded. Therefore, one of ordinary skill in the art would not have found it obvious to apply the metal oxides taught by Smith et al. to the ceramic spacers (4) and glass substrate (3) of Poix et al. On the contrary, one would have expected detrimental effects of introducing metal oxides to the enamel of Poix et al. due to dissimilar coefficients of thermal expansion between the joint material and glass or ceramic materials. Therefore, the rejection of Claims 18-35 under 35 U.S.C. § 103 is respectfully requested to be withdrawn.

Consequently, in light of the above discussion and in view of the present amendment, the present application is in condition for formal allowance and an early and favorable action to that effect is requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



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Gregory J. Maier  
Attorney of Record  
Registration No. 25,599  
James J. Kulbaski  
Registration No. 34,648

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/07)

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Scott A. Neustadt  
Registration No. 42,661